

What is claimed is:

1. An electric toothbrush, comprising:
a housing defining a hollow interior having a motor and a first shaft disposed therein that is operatively connected to said motor, said housing having an engagement member extending along a longitudinal axis of said housing from an end thereof, said engagement member including a first thread helically extending about said engagement member; and
a brush head having a movable bristle carrier at a first end of said brush head and a second shaft operatively connected to said movable bristle carrier, said brush head having a receiving region at a second end of said brush head opposite said first end, said receiving region having an engagement surface with a second thread helically extending along said annular engagement surface, wherein said first thread and said second thread form a threaded connection that releasably couples said brush head to said handle when one of said handle or said brush head is rotated about said longitudinal axis.
2. The electric toothbrush of claim 1, wherein said first and second threads have a pitch and said pitch is between about 2 mm and about 3 mm.
3. The electric toothbrush of claim 1, wherein said first and second shafts reciprocate.
4. The electric toothbrush of claim 1, wherein said second shaft is deflectable.
5. The electric toothbrush of claim 4, wherein said first shaft has a cylindrically-shaped tip.
6. The electric toothbrush of claim 5, wherein said second shaft has a tab and said first shaft has a notch that engages said tab to couple said first shaft and said second shaft.

7. The electric toothbrush of claim 1, wherein one of said handle and said brush head is rotated between about 180° and about 540° to fully engage said first thread and said second thread.

8. The electric toothbrush of claim 1, wherein one of said handle and said brush head is rotated between about 270° and about 450° to fully engage said first thread and said second thread.

9. The electric toothbrush of claim 1, further comprising an arm attached to said second shaft, wherein said tab is disposed on said arm.

10. The electric toothbrush of claim 9, wherein handle has an annular gap between an outer surface of said first shaft and an inner surface of handle for receiving said tab and at least a portion of said arm and wherein said annular gap extends about the entire perimeter of said first shaft.

11. An electric toothbrush, comprising:

a housing defining a hollow interior having a motor and a first shaft disposed therein that is operatively connected to said motor, said housing having an engagement member extending along a longitudinal axis of said housing from an end thereof, said engagement member including a first thread helically extending about said engagement member;

a brush head having a movable bristle carrier at a first end of said brush head and a deflectable second shaft operatively connected to said movable bristle carrier, said brush head having a receiving region at a second end of said brush head opposite said first end, said receiving region having an engagement surface with a second thread helically extending along said annular engagement surface, wherein said first thread and said second thread form a threaded connection that releasably couples said brush head to said handle when one of said handle or said brush head is rotated about said longitudinal axis; and

wherein one of said handle and said brush head is rotated between about 180° and about 540° to fully engage said first thread and said second thread.

12. The electric toothbrush of claim 11, wherein said first and second threads have a pitch and said pitch is between about 2 mm and about 3 mm.

13. The electric toothbrush of claim 11, wherein said first and second shafts reciprocate.

14. The electric toothbrush of claim 11, wherein said first shaft has a cylindrically-shaped tip.

15. The electric toothbrush of claim 14, wherein said second shaft has a tab and said first shaft has a notch that engages said tab to couple said first shaft and said second shaft.

16. The electric toothbrush of claim 11, wherein one of said handle and said brush head is rotated between about 270° and about 450° to fully engage said first thread and said second thread.

17. The electric toothbrush of claim 11, further comprising an arm attached to said second shaft, wherein said tab is disposed on said arm.

18. The electric toothbrush of claim 17, wherein handle has an annular gap between an outer surface of said first shaft and an inner surface of handle for receiving said tab and at least a portion of said arm and wherein said annular gap extends about the entire perimeter of said first shaft.